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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/800,004	03/06/2001	Katsuyoshi Fujita	5000-4853	5254
27123	7590	04/19/2005	EXAMINER	
MORGAN & FINNEGAN, L.L.P. 3 WORLD FINANCIAL CENTER NEW YORK, NY 10281-2101			LEO, LEONARD R	
			ART UNIT	PAPER NUMBER
			3753	

DATE MAILED: 04/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/800,004

Applicant(s)

FUJITA ET AL.

Examiner

Leonard R. Leo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4,5,9-11 and 13-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4,5,9-11 and 14-18 is/are rejected.
- 7) ☒ Claim(s) 13 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 21, 2004 has been entered.

Claims 1, 4-5, 9-11 and 13-18 are pending.

Claim Objections

Claim 17 is objected to because of the following informalities: the recitation of "holds" in line 14 should read --holes--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 17 recites the limitation "the housing" in line 4. There is insufficient antecedent

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the

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subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moss in view of Asami et al.

Moss discloses a hydrogen storage device comprising a plurality of heat medium passage ducts 2 having a plurality of holes (page 1, last paragraph); a plurality of filters 3; and hydrogen storage material 5 there between; but does not disclose a molded body of hydrogen storage material.

Asami et al discloses a hydrogen storage device comprising a heat medium passage A having a plurality of holes 102 and a molded body of hydrogen storage material powder (column 4, line 54 to column 5, line 2) for the purpose of ease of assembly and handling.

Since Moss and Asami et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Asami et al would have been recognized in the pertinent art of Moss.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Moss a molded body of hydrogen storage material powder (column 4, line 54 to column 5, line 2) for the purpose of ease of assembly and handling as recognized by Asami et al.

Claims 1, 4-5, 9-11 and 17-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakane et al in view of Asami et al.

Nakane et al discloses a hydrogen storage device comprising a plurality of heat medium passage ducts 5, 6; a plurality of filters 1, 2; and hydrogen storage material in spaces 10, 11; but

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does not disclose a molded body of hydrogen storage material having a thickness of 10 mm or smaller.

Asami et al discloses a hydrogen storage device comprising a heat medium passage A having a plurality of holes 102 and a molded body of hydrogen storage material powder (column 4, line 54 to column 5, line 2) for the purpose of ease of assembly and handling.

Since Nakane et al and Asami et al are both from the same field of endeavor and/or analogous art, the purpose disclosed by Asami et al would have been recognized in the pertinent art of Nakane et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Nakane et al a molded body of hydrogen storage material powder (column 4, line 54 to column 5, line 2) for the purpose of ease of assembly and handling as recognized by Asami et al.

Nakane et al discloses (column 4, lines 32-41 and column 5, lines 50-54) the optimum thickness of the hydrogen storage material is determined by the occlusion-release characteristics of the material. It would have been obvious to one of ordinary skill in the art to employ any desired thickness of hydrogen storage material to achieve a desired heat transfer and occlusion-release efficiency.

Regarding claims 5 and 11, it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a copper hydrogen storage material, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Claims 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakane et al in view of Asami et al as applied to claims 1, 4-5, 9-11 and 17-18 above, and further in view of Moss.

The combined teachings of Nakane et al and Asami et al lacks each duct having an upstream and downstream section.

Moss discloses a hydrogen storage device comprising a plurality of heat medium passage ducts 2 having a plurality of holes (page 1, last paragraph); a plurality of filters 3; and hydrogen storage material 5 there between; wherein each duct 2 is composed of a flat sheet having a plurality of passages with an upstream and downstream section for the purpose of increasing the residence time to improve heat transfer efficiency.

Since Nakane et al and Moss are both from the same field of endeavor and/or analogous art, the purpose disclosed by Moss would have been recognized in the pertinent art of Nakane et al.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to employ in Nakane et al an upstream and downstream section for the purpose of increasing the residence time to improve heat transfer efficiency as recognized by Moss.

Regarding claim 15, Moss discloses headers 6, 7.

Allowable Subject Matter

Claim 13 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

No further comments are deemed necessary at this time.


Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leonard R. Leo whose telephone number is (571) 272-4916. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gene Mancene can be reached on (571) 272-4930. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.


LEONARD R. LEO
PRIMARY EXAMINER
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April 18, 2005